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Explanation of Significant Differences

Southeast Rockford Groundwater Contamination Site
Rockford, Illinois
Source Area 9/10 – Outside Container Storage and Loading Dock Areas

February 9, 2009

Introduction to the Site and Statement of Purpose

This Explanation of Significant Differences (ESD) describes a change in the remedy for a portion of the Southeast Rockford Groundwater Contamination Site (the Site) in Rockford, Illinois (Figure 1). The majority of the Site will retain the original decision's selected remedy. This ESD proposes modifying the remedy in a small portion of one of four source areas in Operable Unit 3 to excavation. Excavation will remove the most contaminated soils and eliminate a significant hotspot for groundwater restoration purposes. Therefore, in a small area of one of four source areas of Operable Unit 3 of the Site, the remedy will be significantly changed. The proposed actions will be taken pursuant to Sections 104, 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S.C. Sections 9604, 9607 and 9622, and the National Contingency Plan (NCP), 40 C.F.R. Part 300. CERCLA Section 117(c), 42 U.S.C. Section 9617(c) and 40 C.F.R. 300.435(c) (2) (i) of the NCP authorize the publishing of an ESD when the differences in the remedial action to be taken significantly change, but do not fundamentally alter, the remedy selected in the remedial decision. More fundamental changes would require an amendment to the remedial decision.

Work at the Site is organized into three operable units:

Operable Unit #1:

- Alternate Water Supply for Contamination in Residential Wells - Initial Extension

Operable Unit #2:

- Additional Alternate Water Supply Extension
- Monitored Natural Attenuation - Establish Groundwater Monitoring Network to Achieve Overall Contaminated Plume Remediation
- Reduce Impact of Significant Source Areas on groundwater

Operable Unit #3:

- Identify Four Leading Source Control Areas
- Determine Source Control Technology for Four Leading Source Control Areas
- Establish Extent of Contaminated Soil Areas/Local Groundwater Management Zones

At three of the four major source areas under Operable Unit #3, the Illinois Environmental Protection Agency (IL EPA) is the lead agency and the United States Environmental Protection Agency (U.S. EPA) is the support agency. Within the fourth major area, Source Area 9/10 at the Hamilton Sundstrand Plant, U.S.EPA is the lead agency and IL EPA is the support agency. This action relates to the Hamilton Sundstrand Plant within Source Area 9/10 (Figure 2).

Source Area 9/10 is one of the four significant Source Control Areas as established in a June 11, 2002 Record of Decision (ROD) for Operable Unit #3 of the Site. Source control in these four areas is expected to: (1) reduce continued migration of contaminants into the Operable Unit #2 groundwater contaminant plume and (2) reduce the time needed to achieve overall aquifer restoration goals.

The 2002 ROD for Source Area 9/10 identified air sparging (AS) coupled with soil vapor extraction (SVE) as the appropriate remedy for contaminated soil that serves as a source for groundwater contamination. In pre-design work conducted from 2003 to 2005, it was determined that the majority of the soil contamination in a small portion of Source Area 9/10, the Outside Storage Area (OSA), is within four to six feet of the ground surface (see Figure 3). Excavation and appropriate off-site disposal of this small area of relatively shallow soils will negate the need for the AS/SVE system in this area and simplify piping and extraction well placement for the remainder of the Source Area 9/10 AS/SVE remedial action system. After excavation, this area will be backfilled and capped. Institutional controls will then be implemented to prevent exposure to and/or excavation through or into the cap before remedial objectives are accomplished.

A glycerol polylactate product will then be injected into the groundwater beneath the OSA as a pilot program. This substance is expected to create anaerobic conditions in the upper reaches of the contaminated aquifer to enhance the biodegradation of the chlorinated ethenes and ethanes that are contaminating the groundwater beneath the OSA. The glycerol polylactate pilot test is considered a very minor addition to the remedy. This pilot test is an opportunity to gain additional information without undue effort because of the presence of a pre-existing network of testing points/wells in the OSA. There are no plans for additional glycerol polylactate injection at the OSA or in any other part of Source Area 9/10. However, if there are beneficial results from the injection, U.S. EPA would consider a future modification of the remedy. Any potential future change would, however, be preceded by the appropriate review and remedy modification decision; ESD, ROD amendment, etc.

Finally, institutional controls will be implemented at the OSA area to prevent excavation through or into the cap until remedial objectives are accomplished in order to prevent exposure to contaminants underneath the cap. Institutional controls (ICs) are non-engineered instruments, such as administrative and/or legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land or resource use. Although it is U.S. EPA's expectation that treatment or engineering controls will be the primary mechanism in dealing with most of the threat posed by release of hazardous substances at a given site, ICs can play an important role in the function of a given remedy. Further IC guidance can be found at the following U.S. EPA web site:

<http://www.epa.gov/superfund/action/ic/guide/index.htm>

One other area of, likely limited, contaminated soil excavation in Source Area 9/10 is the loading dock area in the northwestern portion of Sundstrand #1 Building (see Figure 2). First, delineation of the nature and extent of soil contamination will be performed at the loading dock area. If appropriate, contaminated shallow soils in this area will be excavated. The extent of excavation will be determined after the extent of contaminated soil has been delineated. If there is a small volume of soils identified as contaminated, they will be disposed of off-site. If the volume of contaminated soils is substantial, the original AS/SVE remedy will be implemented. These changes do not fundamentally alter the previously selected remedy for Source Area 9/10 as

discussed in the June 11, 2002 Operable Unit #3 ROD. The remedy for the great majority of Source Area 9/10 remains AS/SVE. Therefore, a ROD amendment is not required and the change can be effected via this ESD. This ESD will become part of the administrative record file for the Site, as noted in the NCP at 40 C.F.R. 300.825(a) (2).

The Site administrative record file and site repositories may be found at the Springfield, Illinois and Chicago, Illinois offices of the IL EPA and U.S. EPA, respectively:

U.S. EPA Records Center
77 W. Jackson Blvd.
Room 7 South
Chicago, IL 60604 (Administrative Record)
Hours: Monday to Friday 8:00 am to 4:00 pm

Illinois EPA
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62702 (Administrative Record)
Hours: Monday to Friday 8:30 am to 5:00 pm

In addition to the Springfield, Illinois and Chicago, Illinois offices of the IL EPA and U.S. EPA, respectively, the site administrative record file and site repositories may be found locally at:

Rock River Branch- Rockford Public Library
3128 S. 11th Street
Rockford, Illinois (Repository)

Rockford Public Library - Main Branch
215 North Wyman Street
Rockford, Illinois 61101 (Administrative Record)
Library Hours: Monday - Thursday 9:00 a.m. to 9:00 p.m.
Friday - 9:00 a.m. to 6:00 p.m.
Saturday - 9:00 to 5:00 p.m.
Sunday - Closed

Site History, Contamination, and Selected Remedy

Southeast Rockford Groundwater Contamination Site is located in Rockford, Winnebago County, Illinois and consists of an approximately 7.5 square mile area (Figure 1). The overall Site is defined in the June 2002 ROD as the area comprising where the extent of groundwater contamination exceeds 10 parts-per-billion of total chlorinated volatile organic compounds (VOCs). Source Area 9/10 is located in an area bounded by Eleventh Street on the east, Twenty-Third Avenue on the north, Harrison Avenue on the south, and Sixth Street on the west (Figure

2). Further details on the Site's history may be found in the site Administrative Record file.

Source Area 9/10 has a history of industrial activity extending back to approximately 1926. At that time, the Rockford Milling Machine and Rockford Tool Companies merged to become the Sundstrand Machine Tool Company which is located at the northwest corner of 11th Street and Harrison Avenue in Rockford, Illinois, in Source Area 9/10. Groundwater investigations in Southeast Rockford performed by the State of Illinois between 1981 and 1988 indicated that many private and municipal wells were impacted by chlorinated solvent contamination at levels exceeding federal health standards. Further investigations determined that the solvents were used by industries, including Sundstrand, and were released directly into the environment from units such as storage tanks or from improper disposal practices.

The Site was proposed for addition to the National Priorities List (NPL), 40 CFR Part 300, Appendix B, in June 1988, and was listed on March 31, 1989, 54 Fed. Reg. 13,296. Also in 1989, U.S. EPA placed those residents with unacceptable VOC concentrations in their drinking water wells on bottled water as a temporary measure. In 1990, IL EPA began work on the Remedial Investigation/Feasibility Study (RI/FS) for the first drinking water operable unit, OU #1. The ROD for OU #1 was signed on June 14, 1991, and required additional residences whose wells were contaminated by VOCs to be hooked into the City of Rockford municipal water system and the installation of a granular activated carbon water treatment unit at a Rockford municipal well that was contaminated by VOCs. By November 1991, 547 residences and homes were hooked up to Rockford municipal water. In December 1992, U.S. EPA issued a Remedial Action Report certifying that the selected remedy for OU #1 was operational and functional.

IL EPA completed an RI/FS for the groundwater operable unit, OU #2, and the ROD developed therefrom was signed on September 29, 1995. The OU #2 ROD required: 1) additional water hookups for homes and businesses projected to be in the overall Site area affected by contaminated water; 2) groundwater monitoring for 205 years; and 3) future source control measures to be developed for the four primary source areas of contamination at the overall Site. These sources areas were to be identified in OU #3, and include Source Area 9/10.

In May 1996, IL EPA began the RI/FS for OU #3, which required characterization of the nature and extent of contamination at the four source areas. The OU #3 ROD was issued on June 11, 2002. The 2002 ROD identified the Source Area 9/10 Contaminants of Concern (COCs) and established their preliminary remediation goals. COCs include 10 VOCs, 4 SVOCs, beryllium, and dieldrin. A copy of both the 1995 and 2002 RODs can be found at the following U.S. EPA website:

<http://cfpub.epa.gov/superrods/index.cfm?fuseaction=data.RODSList>

Within Source Area 9/10, previous investigations identified an outdoor drum storage area located at the southwest corner of the Sundstrand parking lot in the OSA (see Figure 2). Between 1962

and 1985, various 55-gallon drums of VOC solvents, including tetrachloroethene, 1,1,1-trichloroethane (TCA), toluene, acetone and methylene chloride, were stored in this area. In addition, between approximately 1962 and 1987, Sundstrand maintained approximately 14 underground storage tanks (USTs) at its Sundstrand Plant #1 loading dock area in Source Area 9/10. The USTs were constructed of steel and held solvents, including perchloroethylene (PCE), TCA, and cleaning solvents. The OSA was operated as a Resource Conservation and Recovery Act (RCRA) hazardous waste storage facility.

The remedial technology selected for Source Area 9/10 in the 2002 ROD was AS/SVE with activated carbon treatment for contaminated soils above the groundwater table and installation and operation of air sparging wells below the groundwater table as a part of remediation of a groundwater management zone (GMZ). A GMZ is a 3-dimensional area of groundwater managed to mitigate impairment caused by the release of contaminants from a site. For Source Area 9/10, two GMZs have been established separated by the Illinois Central Railroad property that bisects (east to west) the Source Area 9/10 property. These GMZs extend vertically from the ground surface to the bottoms of existing monitoring wells, about 15 feet below the water table and about 45 feet below land surface. Further details may be found in the October 1, 2004 Source Area 9/10 "Pilot Test Summary Report", prepared as a part of design efforts.

Additional information concerning the scope of contamination and remedy development may be found for all Site Operable Units in the Administrative Record file and in the ROD Database as maintained by U.S. EPA.

Basis for the Document - Source Area 9/10 Information

Following up on the results of the 2002 ROD, in January 12, 2003 an Administrative Order on Consent (AOC) was signed between U.S. EPA and the Potentially Responsible Party (PRP), United Technologies Hamilton Sundstrand (HS), requiring that the PRP perform a Remedial Design (RD) at Source Area 9/10. The 100% RD document, completed by the PRP on March 31, 2007, contains the changes to the 2002 ROD remedy for Source Area 9/10 that are proposed in this ESD. That Remedial Design document was approved on April 26, 2007, by U.S. EPA and made a part of a September 2008 Consent Decree between U.S. EPA, the IL EPA, and the PRP. That document can be found in the Administrative Record file for the Site.

To date, no Principal Threat wastes have been identified in Source Area 9/10. Sampling in the proposed areas of excavation shows no evidence of liquid dense non-aqueous phase liquids (DNAPL). Investigations to be performed as a part of the remedy in Source Area 9/10 areas unrelated to this ESD will provide additional information on the presence of DNAPL. If any DNAPL hotspots are discovered, the remedy will be modified in accordance with contingencies in the 2002 OU #3 ROD.

Zoning

The properties to the immediate north of Source Area 9/10, across Twenty-third Avenue, are zoned residential. The properties south of Source Area 9/10, across Harrison Avenue, are zoned for both commercial and residential purposes. Source Area 9/10 is zoned as light industrial. Future use plans by the City of Rockford, Illinois appear consistent with current zoning. The City of Rockford and Winnebago County draw 100% of their water supply from private, industrial, and municipal groundwater supply wells. The area to the west of the OSA, which is also in the direction of groundwater flow, is currently a vacant lot. There are no structures on this lot.

Source Area 9/10 Outside Storage Area (OSA) Findings

HS completed the RD for Source Area 9/10 consistent with the January 13, 2003 AOC. As part of the RD process, some pre-design investigation was conducted in the vicinity of and on the HS property, including the OSA. A pilot test of the selected ROD technologies (AS/SVE) was also conducted.

The OSA consists of a concrete pad approximately 30 feet wide by 65 feet long and a gravel area immediately south of the pad. The entire area of the OSA is 50 feet wide by 65 feet long. The OSA was used historically for the storage of a variety of waste materials including wastes stored in drums, and bins of metal chips which also contained nonhazardous coolants and cutting oils. The OSA is located in the northwest portion of the HS facility adjacent to the public right of way (concrete sidewalk) east of 9th Street. The entire area is surrounded by a chain link security fence.

The OSA pad was constructed with a collection trench and underground drain line that connected to an underground storage tank (Tank #24). The underground drain line was removed in 1990 and the tank was removed in 1992. Minor portions of the concrete pad were removed to facilitate these activities. The concrete pad was sloped northward so that any liquids would drain into the collection trench. The collection trench was reportedly three feet wide, 60 feet long and eight inches deep.

The collection trench, and the OSA in general, were filled with pea gravel, for aesthetic purposes, after being taken out of service. When the OSA was in operation, the concrete pad area was covered by a metal corrugated roof supported by steel trusses and columns. This overhead structure has since been removed.

The OSA concrete pad and gravel area surface cover are underlain by silty clay to a depth of approximately six feet. The clay overlies a poorly-graded medium sand with occasional gravel layers. Remedial Design work found Contaminants of Concern (COC), including cadmium, lead, 1,1-dichloroethene, 1,2-dichloroethene, 1,1,1-trichloroethane, 1,1,2-trichloroethane,

trichloroethene, and tetrachloroethene, in the soil at concentrations above the remedial objectives (RO) established in the Operable Unit #3 ROD.

Eight investigative borings were drilled in the OSA; results indicated that most of the problem VOC concentrations were detected within four feet of the ground surface, unlike most of the rest of Source Area 9/10 where most of the significant contaminant concentrations were detected at a depth closer to 20 feet below ground surface (bgs). Additionally, unlike the remainder of Source Area 9/10, soils at the OSA were contaminated with certain heavy metals, such as cadmium and lead. Such metals would not be efficiently removed by the AS/SVE technology, the selected treatment technology for the rest of the Source Area 9/10 soils. The risks caused by lead and cadmium in the OSA soils will be removed by the planned excavation.

Offsite disposal of contaminated soil identified in the OSA is preferred due to its limited volume. The impacted soil occupies an area of 3,300 square feet. At the anticipated shallow excavation depths, the volume of soil is estimated at 550 cubic yards. The contaminated soil will then be shipped offsite to an IL EPA- and U.S. EPA-approved hazardous waste disposal facility.

Description of Significant Differences

Alternative remediation approaches, affecting small areas of Source Area 9/10, are proposed and include:

1. a) excavation and off-site disposal of a small volume of shallow contaminated soils in the OSA, (b) capping of this excavated area and (c) pilot injection of a glycerol polylactate product below the OSA area; and,
2. excavation and off-site disposal of a small volume of shallow contaminated soil in the loading dock area of the Sundstrand #1 Building.

Soil contaminants in the OSA area are at a relatively shallow depth compared to contaminated soil in the rest of Source Area 9/10. For this reason, contaminated soil excavation and removal within the OSA, rather than employment of SVE technology, will be the most effective and efficient means of managing the OSA contaminated soils. Removal of impacted soil to a minimum target depth of four feet within the OSA is proposed. In addition, pending the results of investigations in the loading dock area, soil excavation is planned there as well. These excavations will result in the removal of contaminants that are serving as a source of groundwater contamination in Source Area 9/10 and constitute a minor amount of the total volume of contaminated soil in this Source Area. These alternative actions represent a significant, but not fundamental, change to the remedy selected in the Operable Unit #3 ROD.

The inclusion of limited excavation of the near surface soil in the OSA and loading dock area will improve the performance of the remedy and will reduce the duration of remedial activities. Limited soil excavation will be a more effective and efficient approach for addressing the soils in these areas for two key reasons: 1) although metals contamination in the soils is not a risk driver,

excavation of contaminated surface soils at the OSA will remove any residual metal contamination in the soil within this area; AS/SVE will not; and 2) the near surface soil in the OSA is clay, which will limit the ability of these technologies (AS/SVE) to remediate organics in a reasonable timeframe. The excavation and associated planned activities in the OSA and loading dock are small; anticipated to cost on the order of \$500,000. Therefore, this change in the remedy is not anticipated to have a significant effect on the cost estimates presented in the Operable Unit #3 ROD.

In addition to limited excavation, introduction of glycerol polylactate into the groundwater is proposed as a pilot project to enhance biodegradation of groundwater contaminants in the vicinity of the former OSA area. This product is expected to create anaerobic conditions in the upper reaches of the contaminated aquifer resulting in more favorable conditions for the existing aquifer bacteria population to facilitate the reductive dechlorination process. A more rigorous determination of the additive's efficacy as a biodegradation agent will not be performed at this time. Monitoring wells will be installed downgradient of the excavation/glycerol polylactate injection area to monitor: 1) the generation of any VOC degradation products that may increase the potential for vapor intrusion, and 2) how water quality in the portion of the aquifer downgradient of the OSA responds to the introduction of the glycerol polylactate. Information from the monitoring wells will also assist in determining whether additional technologies are needed to supplement the additive or if scale-up of glycerol polylactate injection is worth contemplating. Because the land for several hundred feet hydraulically downgradient of the area of glycerol polylactate injection is an empty lot with no structures, the threat to human health that could arise from exposure to VOC degradation products (particularly vinyl chloride) via vapor intrusion is considered minimal. In addition, because ambient shallow groundwater in this area appears to contain sufficient dissolved oxygen to promote the efficient oxidative breakdown of vinyl chloride, it is likely that the extent of vinyl chloride in the aquifer downgradient of the OSA area will be small. In any event, the VOC concentration data obtained during the groundwater-quality monitoring associated with the pilot injection will enable vapor intrusion and other threats to be identified, assessed, and acted upon, if necessary.

After excavation, backfilling with clean soil and the construction of a clay cap to limit future water infiltration is proposed for the OSA area. Clean backfill from a documented local source will be used after excavation of contaminated soil. At a minimum, the top three feet of fill will be compacted clay. The area will then be top dressed with topsoil and seeded with grass.

Change in Remedy Execution

HS and their technical consultants (SECOR, Inc.) prepared a RD that is Attachment B to the September 2, 2008 Consent Decree signed by both U.S. EPA and IL EPA. The RD outlines how the proposed excavation and off-site disposal within the OSA and loading dock would be conducted, how introduction of the anaerobic-inducing substance would be accomplished, and how subsequent capping efforts would be executed.

The target depth for excavation of each subarea in the OSA and its cap design is shown on Figure 3 of the RD work plan materials, included with this ESD. The actual depth of soil to be removed in each subarea will be based on health and safety considerations and preservation of the structural integrity of existing infrastructure, including utilities onsite and adjacent to the OSA. A comparison of the projected post excavation average soil concentrations and ROs is provided in Table 2.2 from the RD materials. A comparison of the estimated mass of tetrachloroethene currently in the OSA soils, and an estimate of what will remain after excavation is complete, indicates about 95% of the initial contaminant mass will be removed.

Temporary fencing will be used to create exclusion and decontamination zones around the OSA and to block access from HS personnel and others. Permission to close the sidewalk and perhaps a portion of a drive lane on 9th Street adjacent to the OSA will be sought from the City of Rockford. If roadway closure is granted by the City of Rockford, a larger exclusion area will be created using the aforementioned fencing and appropriate lane closure signage (based on current Illinois Department of Transportation standards). A site layout identifying the approximate exclusion, decontamination, and support work zones is attached (Figure 4). The proximity of the excavation to structures and utilities will require that special care be taken to avoid damaging or in any way compromising the integrity of the adjacent infrastructure. In some areas, excavation walls may require shoring, benching or sloping. This may limit the depth or areal extent of excavations.

The excavation work will be completed using a track backhoe excavator or equivalent. The concrete pad will be scored with a concrete saw and broken into manageable pieces using a backhoe as part of excavation activities. The concrete and impacted gravel will be disposed along with the contaminated soils. The excavated soil will be loaded into lined container boxes with tarp covers or loaded directly into trucks with lined boxes. The trucks for transport will remain outside of the OSA. The material will be transported by truck to the designated disposal facility.

All excavations shall be made in accordance with the rules, regulations, requirements, and guidelines set forth in 29 CFR 1926.650, .651, and .652; the Occupational Safety and Health Administration's Standard on Excavations. Excavations will be inspected by a competent person to assure that side walls are stable and do not pose a threat to personnel, equipment, or surrounding infrastructure.

Upon completion of excavation activities in a specific area, base and wall samples, as appropriate, will be collected. The soil samples will be obtained using the backhoe bucket or other sample collection device, as appropriate. Personnel will not enter the excavation for sampling activities at any location greater than four feet deep. Samples will be collected halfway up the sidewall whether vertical or sloped. Base and wall samples will be collected at approximately 20 foot intervals. At a minimum, three samples from each wall will be collected for a total of 12 wall samples around the perimeter of the OSA. Base samples will also be collected on approximately 20 foot centers.

The timing and manner of backfill placement will be dictated by the actual site and soil conditions. If existing infrastructure or utilities are considered vulnerable, backfill placement will be completed immediately following the excavation and sampling activities. The excavation will be backfilled with clean fill material from a documented source. At a minimum, the top three feet of fill will be a clay matrix soil.

A Regenesi[®] product, Hydrogen Release Compound Extended Release Formula (HRC-X), will be introduced into the groundwater underlying the OSA through the screened portion of existing wells. HRC-X is a glycerol polylactate product which slowly releases hydrogen into groundwater for an extended period of time and creates anaerobic conditions which facilitate the biodegradation process for chlorinated volatile organic compounds. The exact amount of HRC-X to be introduced will be determined based on the presence and levels of other electron acceptors in groundwater such as dissolved oxygen, nitrate, iron, manganese, and sulfate. The HRC-X mixture will be introduced to the wells using a GS200 grout pump, or equivalent.

Some existing wells in the vicinity of the OSA will be abandoned in accordance with the Title 77 Illinois Administrative Code Water Well Construction Code (Section 920.120) in preparation for the excavation activities.

The AS/SVE, vacuum monitoring, and AS monitoring wells or points with a depth greater than five feet will be properly abandoned by filling the well annulus with cement bentonite slurry installed via tremie pipe to a depth of four feet bgs. The near ground surface portion of the well risers will be removed in connection with the OSA excavation activities. The shallow wells (five feet or less in depth) will be completely removed as part of the excavation activities. Details of the placement of additional groundwater monitoring wells around the perimeter of the former OSA are included in the operations, maintenance, and monitoring plan for the Source Area 9/10 RD.

Waste characterization samples will be collected and analyzed and submitted to the hazardous waste disposal facility for acceptance. The material will be manifested and shipped under listed hazardous waste code F002 or other as determined by the characterization analysis.

The top three feet of backfill material will be clean clay matrix soil. The soil will be placed in one foot lifts over the excavated area and compacted with the excavating equipment. The area may then be top dressed with suitable topsoil and seeded with grass to minimize erosion and for aesthetic purposes. Such backfill and a suitable cap are needed to deal with basic site safety considerations after excavation performance. The cap will help to minimize both the chance of human exposure to soil contaminant residuals, and infiltration of surface water into underlying soils which could otherwise leach remaining soil contaminants into groundwater (see Figure 5).

Institutional Controls in the form of deed restrictions will be implemented by the potentially responsible party, with U.S. EPA oversight, pursuant to the 2008 CD. These controls are

imposed on the title of the property to ensure that specific requirements and prohibitions are clearly identified to current and future owners. Commercial/industrial land and groundwater use restrictions will be imposed on the deed for the property by the PRP in conjunction with the establishment of the GMZs and an Illinois Environmental Land Use Control. The restrictions will prohibit the use of groundwater at the Site as a potable water source and require that any contaminated groundwater or soil removed from the property will be handled in accordance with all applicable laws and regulations. The designation of restricted groundwater use will be completed in conjunction with the establishment of a GMZ for Source Area 9/10. The point of compliance well monitoring network for the remedial action will be developed as a part of the GMZ application. The commercial/industrial land use restriction will be imposed on the deed of the PRP. This action will prohibit the use of the property for residential purposes.

In order for the OSA cap to be fully effective, appropriate Institutional Controls must also apply to the cap. Cap effectiveness would be defeated if excavation through or into the cap occurred before remedial objectives are accomplished. The Consent Decree requires that the property owner post adequate notice and seek necessary activity restrictions on Site property deeds to ensure the integrity of the cap until the remedial action goals for the groundwater are reached and as long as soil contamination above health-based levels remain under the cap. The cap will be identified as an engineered barrier upon completion of the OSA excavation activities. The barrier will be identified and management systems put into place such that excavation or other facility operations will provide for the integrity of the clay cap. If excavation is required in the future within the boundaries of this area, specific safety precautions are required of the PRP and the integrity of the cap must be restored to the satisfaction of U.S. EPA upon completion of those activities. In accordance with the CD, the condition of the engineered barrier will be periodically inspected and necessary maintenance activities performed by the PRP to restore the condition of the barrier such that the integrity of the barrier can be certified by U.S. EPA.

After completion of activities, a summary report documenting the work will be prepared. The report will consist of a brief narrative of the biodegradation enhancement data collection and HRC-X introduction, well abandonment, excavation, and backfilling activities.

U.S. EPA, with IL EPA concurrence, has determined that this is a significant change to the remedy at Source Area 9/10, but a change that does not fundamentally alter the remedy selected in the Operable Unit #3 ROD. The remedy selected in the Operable Unit #3 ROD remains protective of human health and the environment and continues to meet applicable or relevant and appropriate requirements (ARARs). Since the accomplishment of the tasks set forth in this ESD will not result in conditions which would allow the unrestricted future use of this portion of the site, Source Area 9/10 will remain subject to inclusion in future Five Year Review Reports for the Southeast Rockford Groundwater Contamination site. The next scheduled Five Year Review Report is due for this Site in April 2013.

Rationale for Selection of this Change to the Remedy for the OSA Portion of Source Area 9/10

As noted in the June 11, 2002 OU #3 ROD, soil vapor extraction and enhanced air sparging were the preferred alternatives selected for Source Area 9/10. These alternatives were selected because they provide substantial risk reduction by treating those source materials which constitute a principal threat at the site at reasonable cost and within a reasonable time frame.

However, as was noted on page 77 of 153 of the June 11, 2002 OU #3 ROD, concern over underground utilities prevented a thorough investigation of Source Area 9/10. The Operable Unit # 3 ROD presumed that additional data collection would be conducted as part of the remedial design process, and that "...the vapor treatment scenario may have to be reevaluated, based on the results of additional data collection...and the results from the SVE pilot program..."

This ESD reflects reevaluation of the Remedial Action. As has been discussed elsewhere in this document, soil contamination within the OSA tends to occur at significantly shallower depths than at other portions of Source Area 9/10. Excavation and off-site disposal of the shallow contaminated soils at an appropriate facility is a practical response to the OSA findings. The balance of Source Area 9/10 will continue to rely on soil vapor extraction and enhanced air sparging for treatment. Extracted soil vapors will be appropriately treated to reduce airborne exposure risks in addition to meeting air emission requirements as specified in the Operable Unit # 3 ROD. The overall SVE system design will be simplified by adopting the measures discussed in this ESD, in that piping serving the SVE system can be shortened, and less powerful blower motors than would otherwise have been necessary, can be used.

It is anticipated that the excavation and treatment/disposal of soil from the OSA will reduce the time period for remediation of this area. The overall Source Area 9/10 remediation timeline may also be reduced because AS/SVE would not adequately address remaining residual metals and the timeframe for removal of chlorinated volatile organic compounds from the near surface clay by AS/SVE would be significantly longer.

It is also anticipated that the costs associated with the excavation, soil treatment/disposal, and other OSA activities will be offset by a reduction in the long term operation and management costs that would be associated with an AS/SVE system.

Standards to be Attained

Remedial objectives in the June 11, 2002 OU #3 ROD for Source Area 9/10 are not altered by work proposed in this ESD.

Support Agency Comments

The support agency for source control activities in Source Area 9/10 is the IL EPA. In a letter dated May 13, 2005, IL EPA indicated to U.S. EPA approval of the proposed excavation procedures for managing the Source Area 9/10 OSA work, provided that certain comments concerning work plan development were appropriately addressed. In addition, IL EPA was a

signatory to the September 2, 2008 Consent Decree with HS, outlining these changes.

Statutory Determinations

The revised remedy complies with the public participation portions of both the NCP at 40 C.F.R. 300.435(c)(2)(i) and the statutory requirements of CERCLA at Section 117(c), 42 U.S.C. Section 9617(c), and satisfies the technical requirements of Section 121 of CERCLA, 42 U.S.C. Section 9621; which are to protect human health and the environment; comply with ARARs; be cost effective; utilize permanent solutions and alternate treatment technologies to the maximum extent practicable; and satisfy the preference for treatment as a principal element of the remedy. The revised remedy continues to meet CERCLA's preference for treatment as a principal element because the originally selected soil and groundwater treatment actions, AS/SVE, remain the major components of the remedy. U.S. EPA has determined that this change to the remedy for the OSA portion of Source Area 9/10 satisfies provisions of CERCLA Section 121, 42 U.S.C. Section 9621 and the standards set forth in the June 11, 2002 OU #3 ROD. Statutory Five-Year Reviews will be required to ensure remedy protectiveness is maintained.

Public Participation Compliance

U.S. EPA, working in coordination with IL EPA, shall make this explanation of significant difference and supporting information available to the public via the administrative record and the information repositories (noted above in this document). The Agencies have worked together and have developed a fact sheet explaining site developments. Reducing the contaminant mass should fit in with City of Rockford actions at managing the overall plume of contamination as established by Operable Unit #2.

In coordination with IL EPA, U.S. EPA will ensure that a notice that briefly summarizes the ESD, and provides basic reason for such differences, is published in a newspaper of local circulation. By so doing, U.S. EPA will meet the public participation requirements of the NCP at 40 C.F.R. 300.435(c)(2)(i). U.S. EPA has allocated funds for the placement of an enhanced display advertisement in a Rockford newspaper of general circulation following signature of this document.

In coordination with IL EPA, U.S. EPA will observe community reaction to the notice placed in the newspaper. If numerous questions or significant reaction from the public are forthcoming, U.S. EPA is prepared to hold a public meeting to discuss the changes documented in this ESD.

Approved by:

Date:

A handwritten signature in cursive script, reading "Richard C. Karl", written over a horizontal line.

Richard C. Karl, Director
Superfund Division

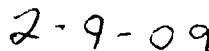
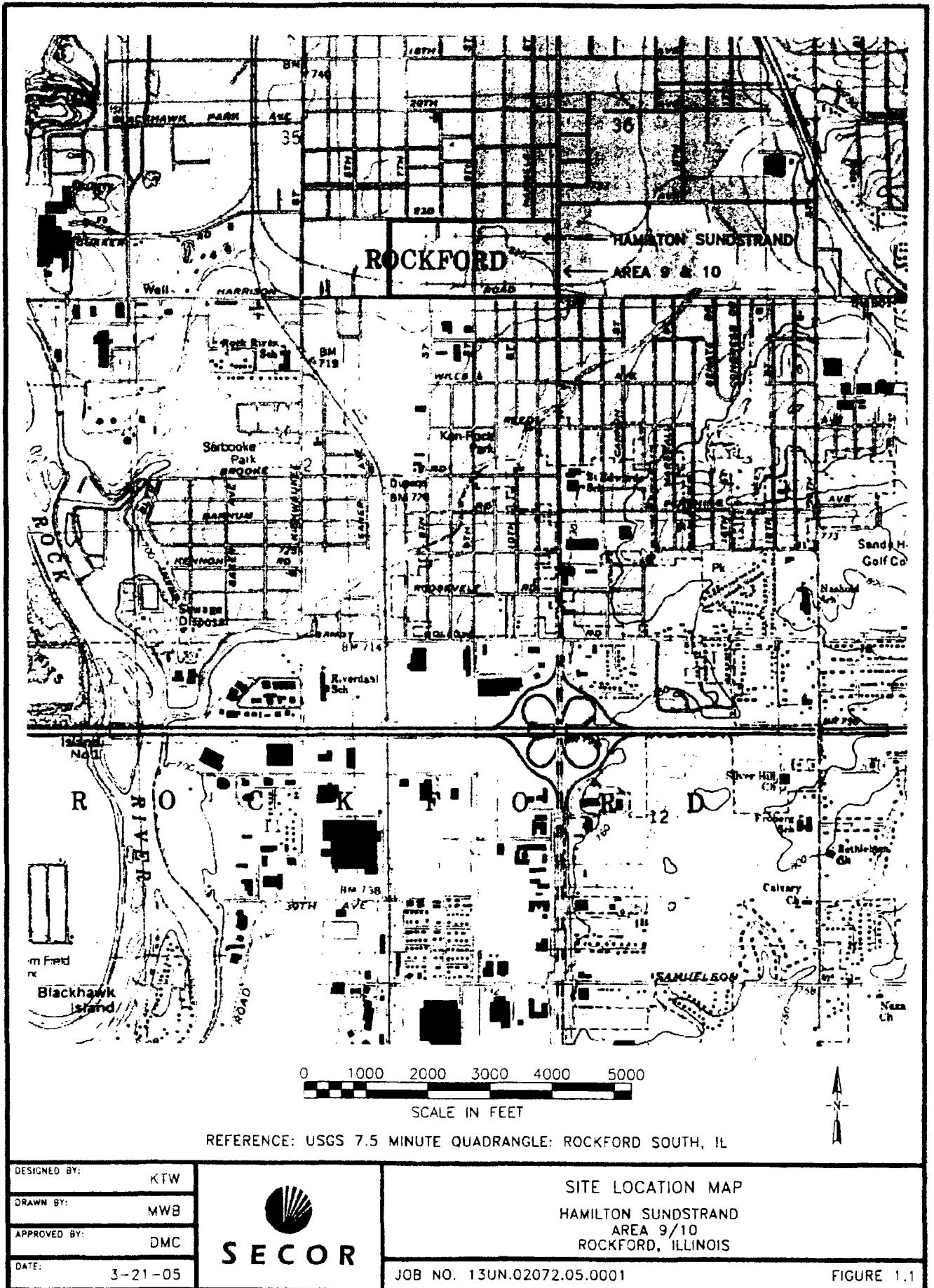
A handwritten date "2-9-09" written over a horizontal line.

Figure 1



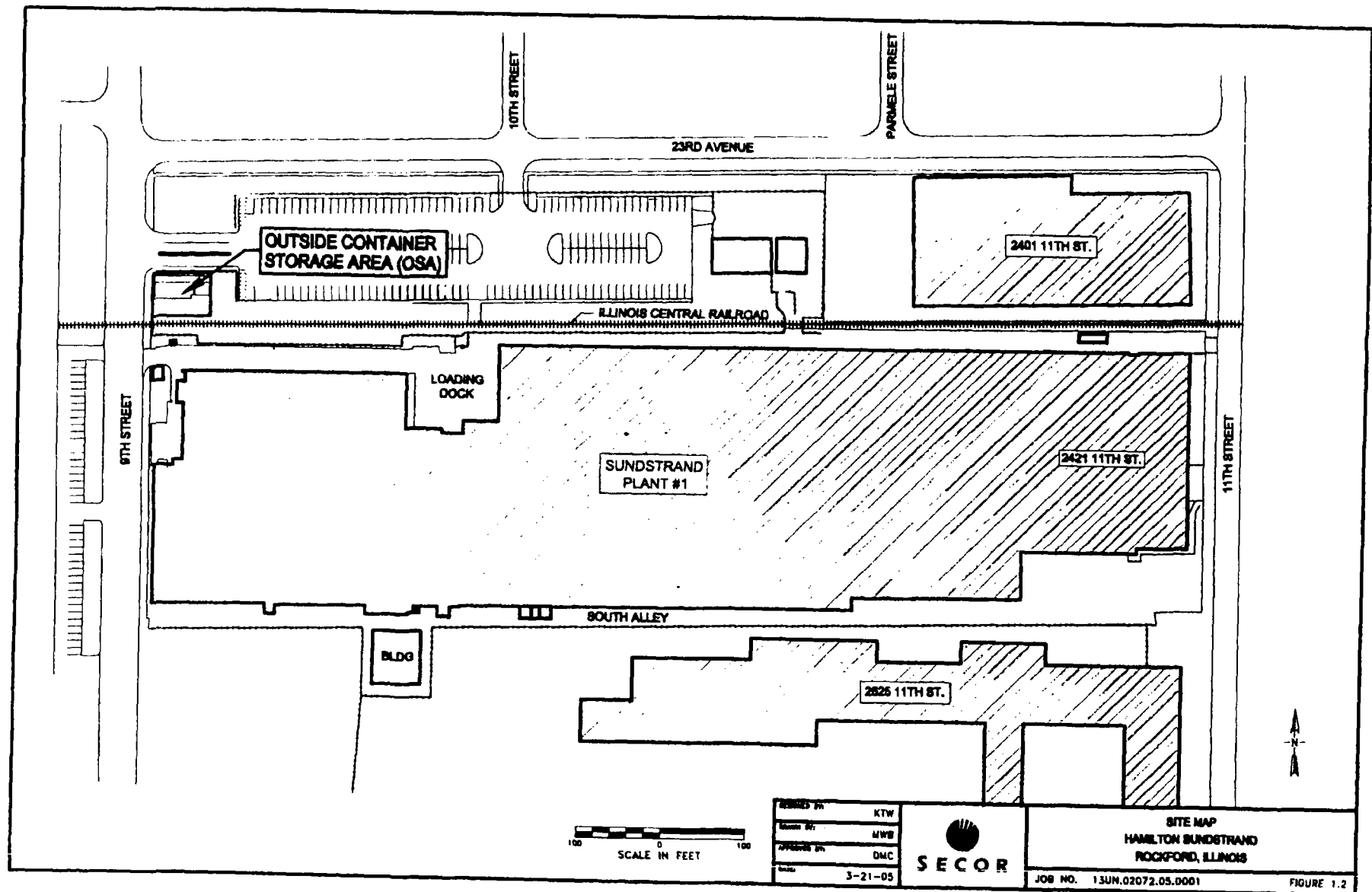


Figure 2

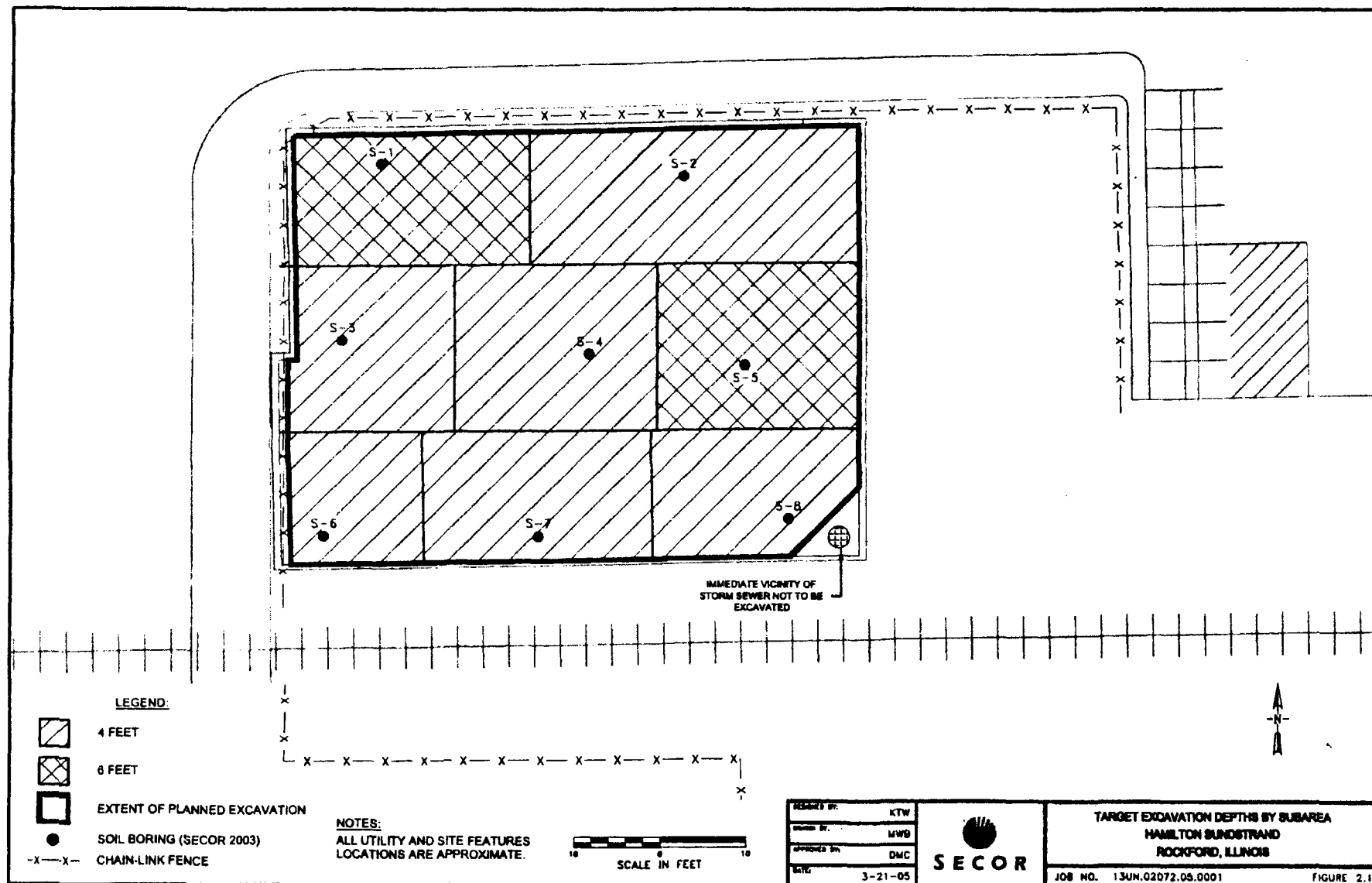


Figure 3

Figure 4

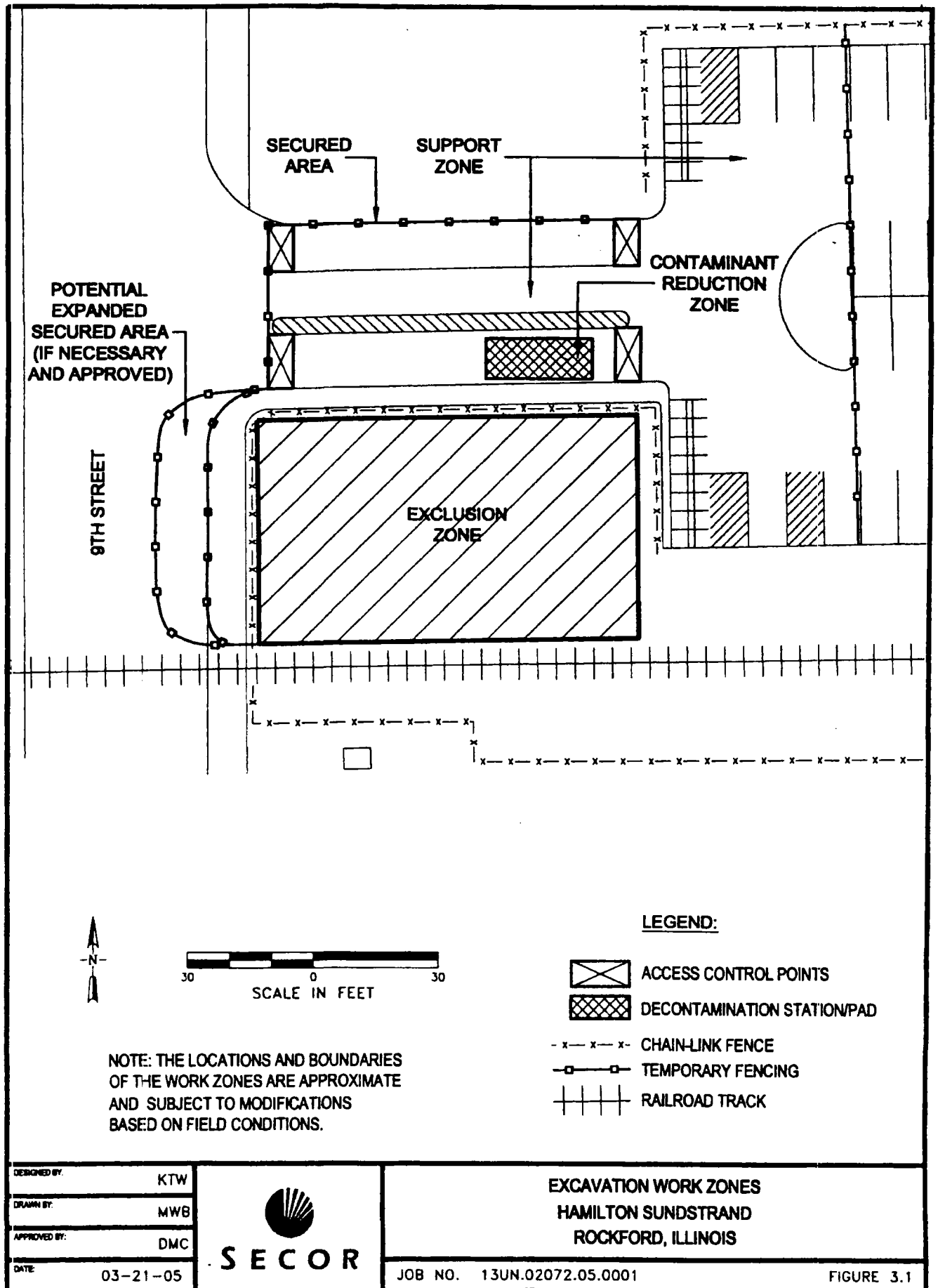


Figure 5



PREPARED BY:

SECOR
 448 BROADVIEW LAKE NORTH
 LAWRENCE, ILLINOIS 62538
 PHONE: (312) 700-1400 FAX: (312) 700-1401

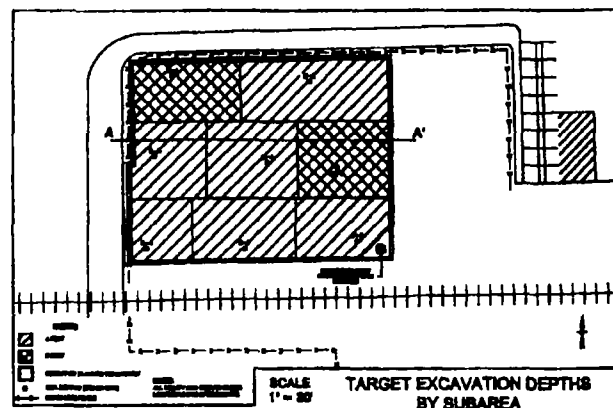
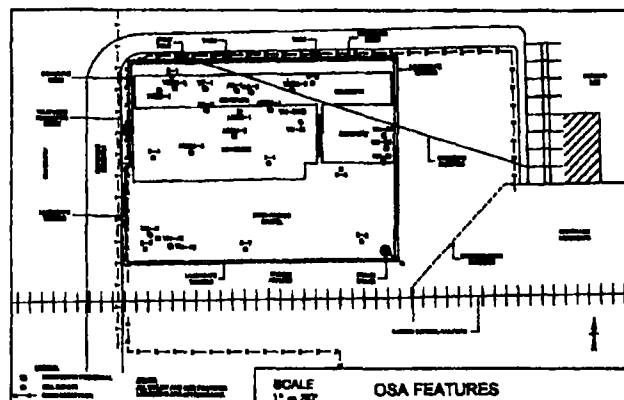
FOR:
 AREA 8/10 REMEDIAL DESIGN
 SOUTHEAST ROCKFORD GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 ROCKFORD, ILLINOIS





TITLE:
**CLAY CAP
 ENGINEERED BARRIER
 CROSS SECTION**

DESIGNED BY: JD	DESIGNED BY: KTV
CHECKED BY: JEP	APPROVED BY: DMD/KTV
PROJECT NUMBER: 10014001401	SCALE: AS SHOWN
DATE: 8/20/97	FILE PATH: P:\0014001401\DESIGN\CLAYCAP.DWG

SHEET:
 Y7

00000717.dwg



- LEGEND:**
-  TOP SOIL TO BE SEEDED WITH GRASS (4.5 FEET APPROXIMATELY)
 -  COMPACTED CLAY 6 FEET MINIMUM (TO BE PLACED IN 1 FOOT LIFTS)
 -  CLEAN FILL 8 TO 8 FEET
 -  NATIVE SOIL (W/CLAY TO 6 FEET)



FINAL DESIGN 100% DESIGN